

FULLY SPRINKLERED

MECHANICAL EQUIPMENT GENERAL NOTES:

EQUIPMENT. PROVIDE RIGID ALUMINUM CONDUITS AT EXTERIOR LOCATIONS. SEAL ALL ROOF

LABEL ALL DISCONNECT SWITCHES TO INDICATE POWER SOURCE AND EQUIPMENT SERVED.

COORDINATION NOTE:

ELECTRICAL CODED NOTES:

GENERAL PURPOSE ONLY. CONTRACTOR SHALL VERIFY EXACT ROUTING IN FIELD,

FUEL FLOAT BASE TANK VIA 1-1/4" CONDUIT, 12#14. COORDINATE CONNECTION REQUIREMENTS WITH MANUFACTURER PRIOR TO INSTALLATION. FEEDER ROUTING IS FOR

BENDS, JUNCTION BOXES, ETC. AS REQUIRED FOR A COMPLETE SYSTEM.

'DPE2' AND (1) FROM MOTOR CONTROL CENTER 'MCC-D1' TO DUAL POWER FUEL OIL PUMP CONTROLLER VIA 3/4" CONDUIT, 3#12 & 1#12 GROUND EACH. COORDINATE CONNECTION REQUIREMENTS WITH MANUFACTURER PRIOR TO INSTALLATION. FEEDER ROUTING IS FOR

COORDINATE WITH MECHANICAL FUEL PUMP PIPING, AND PROVIDE ALL ADDITIONAL OFFSETS,

GENERAL PURPOSE ONLY. CONTRACTOR SHALL VERIFY EXACT ROUTING IN FIELD, COORDINATE WITH MECHANICAL FUEL PUMP PIPING, AND PROVIDE ALL ADDITIONAL OFFSETS, BENDS,

'MCC-G11' CUBICLE TO SUPPLY FUEL OIL PUMP SYSTEM. REMOVE EXISTING SPARE CUBICLE BREAKER, STARTER, CONTROLS, ETC. COMPLETE. PROVIDE ON/OFF CONTROLS ON 'MCC-G11' FOR NEW BREAKER. PROVIDE NEW PHENOLIC LABEL THAT READS "GENERATOR G8 - FUEL

COMPONENTS TO CONNECT NEW PIPING HEAT TRACE CABLES TO EXISTING SPARE BREAKER.

FOR ALL NEW EXTERIOR FUEL OIL PIPING. COORDINATE EXACT PIPING SIZE, LOCATION AND

20A-480V-3Ø ELECTRICAL POWER CONNECTION TO 'DPE2' VIA 3/4" CONDUIT, 3#12 & 1#12

HEAT TRACE POWER OUTPUT (W/ft)

(1) 3W/ft

(1) 3W/ft

REFER TO SPECIFICATIONS SECTION 220533 FOR ADDITIONAL REQUIREMENTS.

LENGTHS WITH MECHANICAL DRAWINGS. VERIFY ADDITIONAL REQUIREMENTS WITH

GROUND. CONNECT PER MANUFACTURERS WIRING DIAGRAMS.

INSULATION, 50°F AT, 277V-1Ø POWER CONNECTION. COORDINATE ADDITIONAL REQUIREMENTS AND ANY CHANGES WITH MANUFACTURER

COMPLETE HEAT TRACE SYSTEM, INCLUDING BUT NOT LIMITED TO; POWER CONNECTING KIT, SPLICE KIT, TEE KIT, END SEALS, GLASS

CALCULATIONS WITH MANUFACTURER REQUIREMENTS. PROVIDE

ADDITIONAL SIZES AND COMPONENTS AS REQUIRED BY HEAT TRACE MANUFACTURER. PROVIDE MANUFACTURER CALCULATIONS AND WIRING

TAPE, ELECTRICAL TRACED LABEL AND THERMOSTAT.

DIAGRAMS WITH SHOP DRAWINGS FOR APPROVAL.

PENETRATION WATER-TIGHT AND ALL WALL PENETRATIONS TO MAINTAIN FIRE RATING.

MECHANICAL PLANS PRIOR TO ROUGH-IN.

JUNCTION BOXES, ETC. AS REQUIRED.

OIL PUMP FOP-3".

MANUFACTURER.

PIPE SIZE

1.5**"**Ø

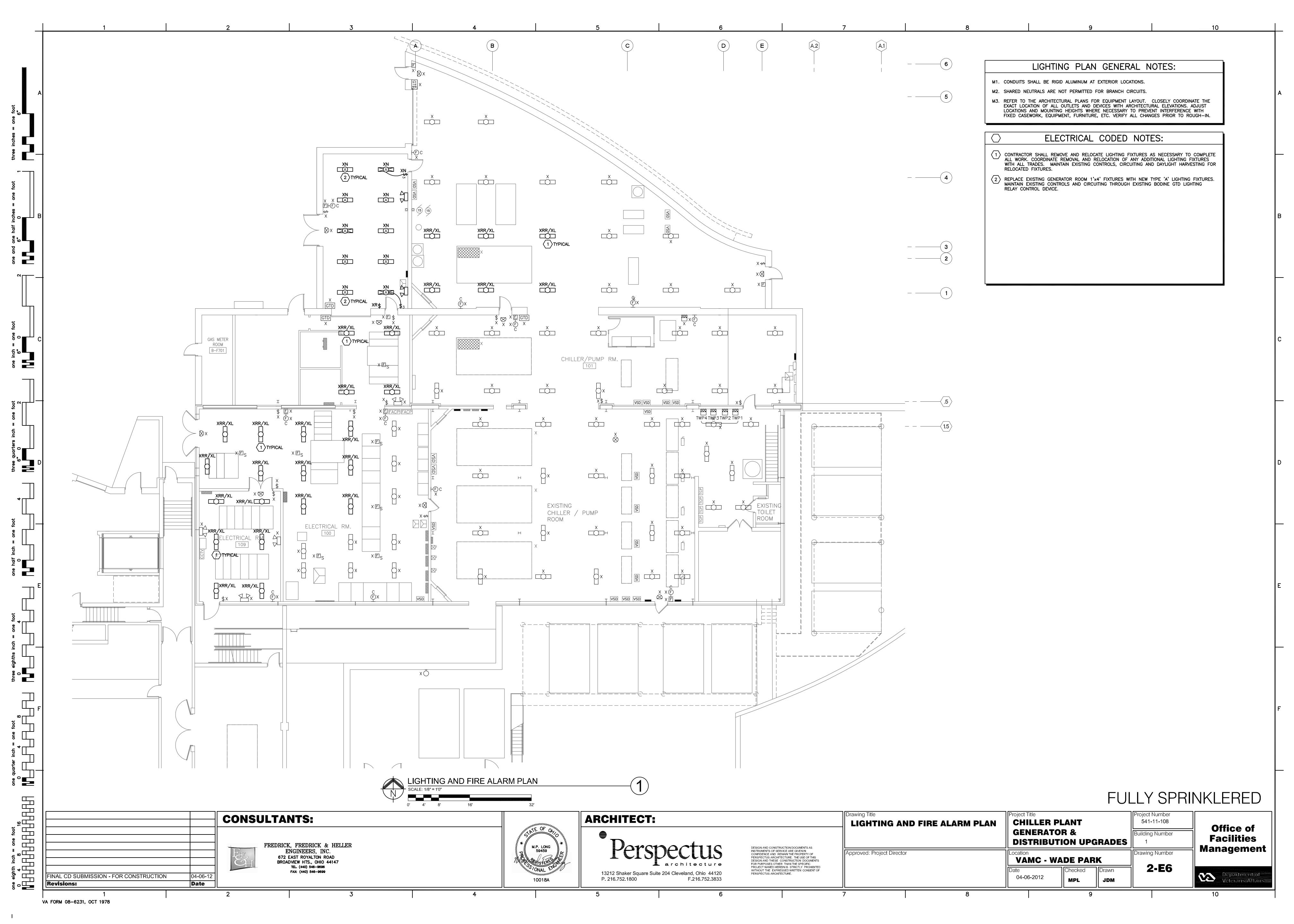
2**"**Ø

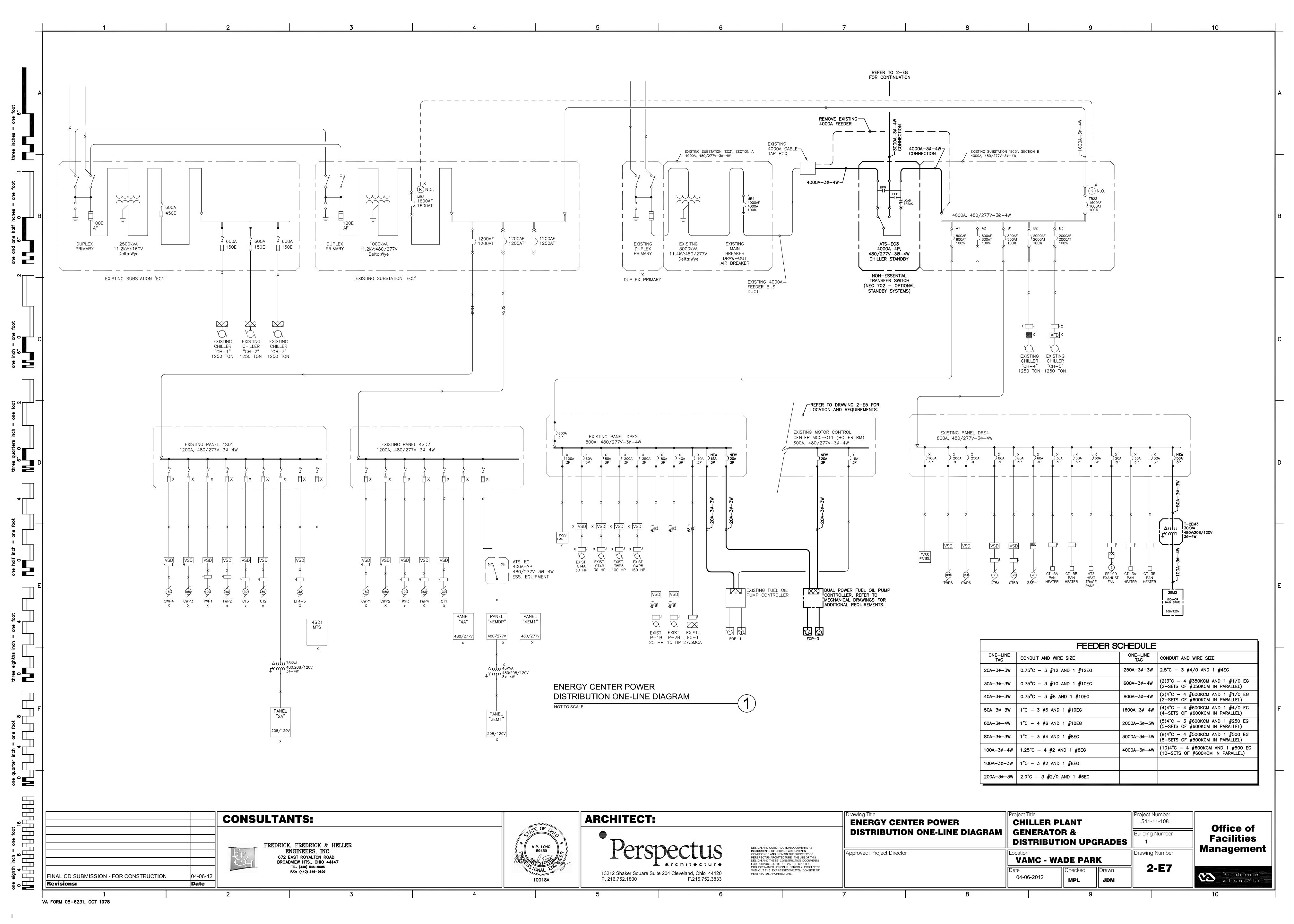
AND ENGINEER.

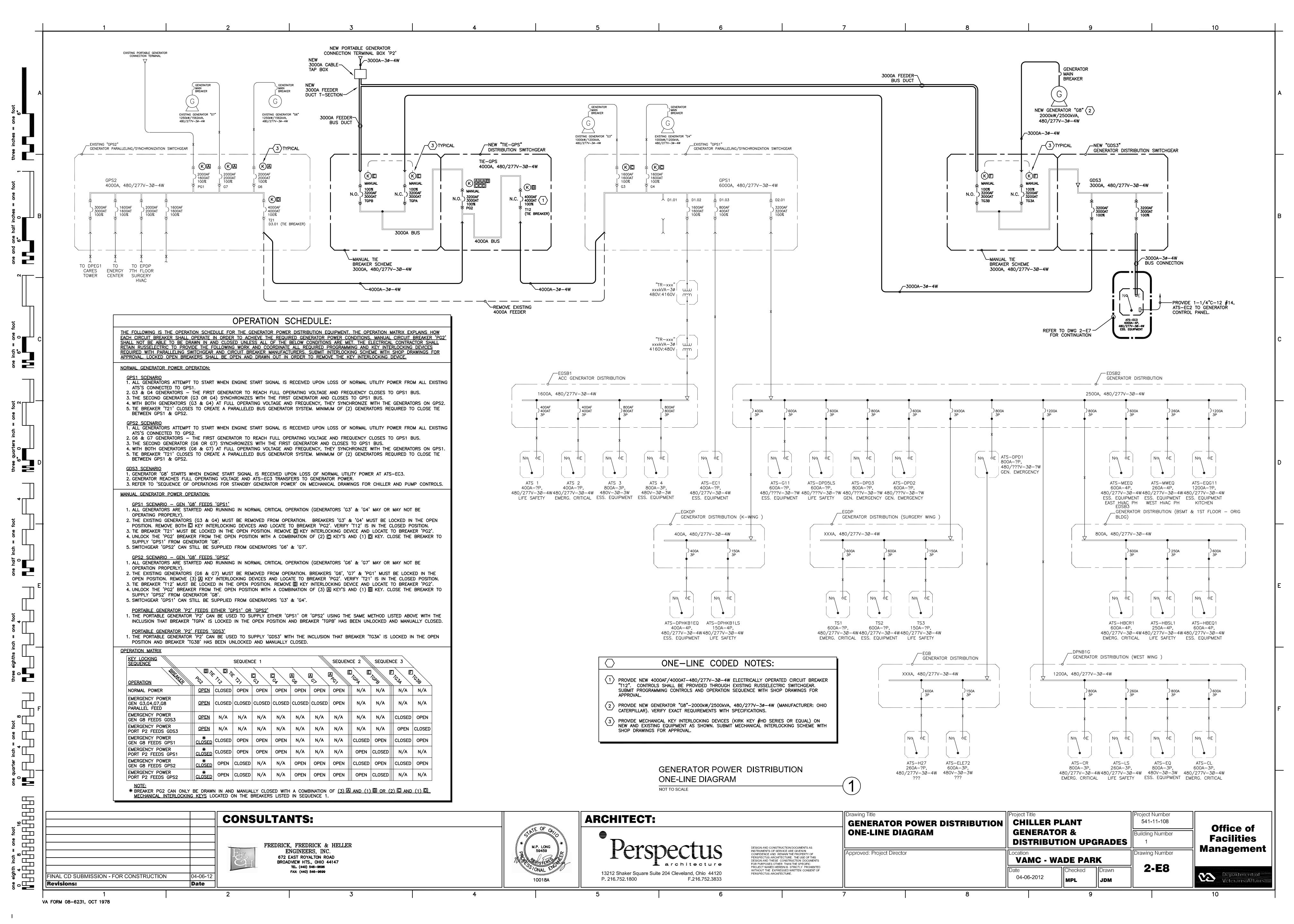
REQUIREMENTS.

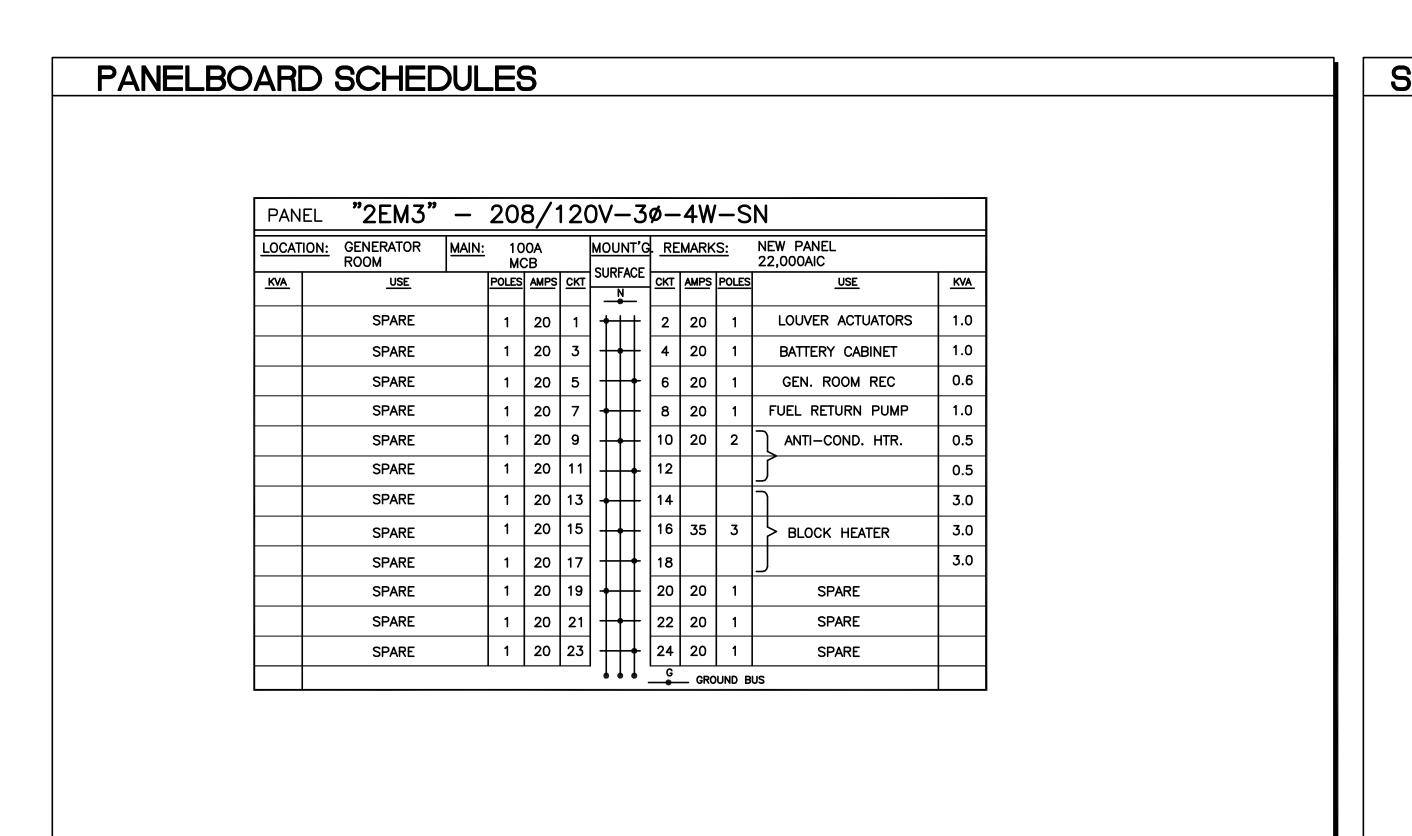
roject Title Drawing Title **CONSULTANTS: ARCHITECT: CHILLER PLANT** 541-11-108 **FUEL OIL SYSTEM** Office of **ELECTRICAL PLAN GENERATOR &** Building Number **Facilities** DISTRIBUTION UPGRADES FREDRICK, FREDRICK & HELLER Management DESIGN AND CONSTRUCTION DOCUMENTS AS INSTRUMENTS OF SERVICE ARE GIVEN IN CONFIDENCE AND REMAIN THE PROPERTY OF ENGINEERS, INC. Approved: Project Director Drawing Number 672 EAST ROYALTON ROAD **VAMC - WADE PARK** BROADVIEW HTS., OHIO 44147 DESIGN AND THESE CONSTRUCTION DOCUMENTS 2-E5 TEL. (440) 546-9696 PROJECT NAMED HEREIN IS STRICTLY PROHIBITED WITHOUT THE EXPRESSED WRITTEN CONSENT OF Drawn Checked FAX: (440) 546-9699 13212 Shaker Square Suite 204 Cleveland, Ohio 44120 Department of Veterans Affairs PERSPECTUS ARCHITECTURE. FINAL CD SUBMISSION - FOR CONSTRUCTION 04-06-12 04-06-2012 P. 216.752.1800 F.216.752.3833 MPL JDM Revisions: Date

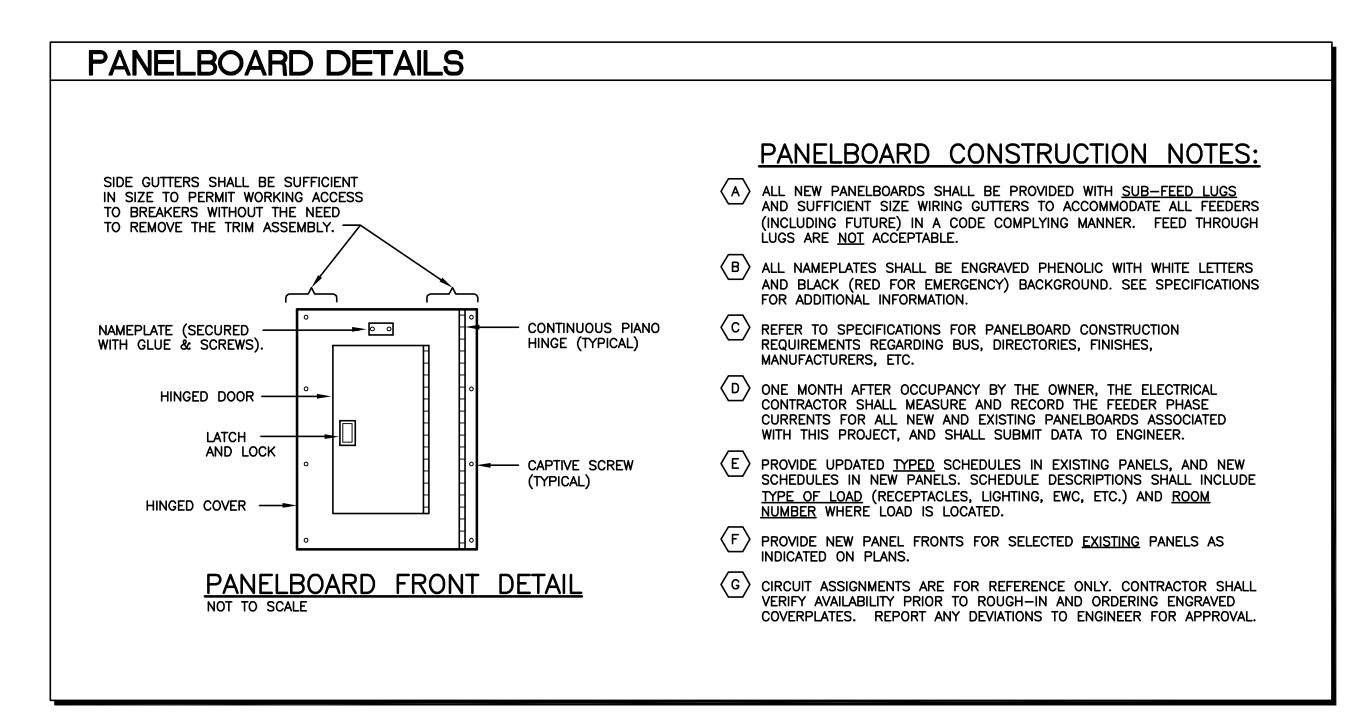
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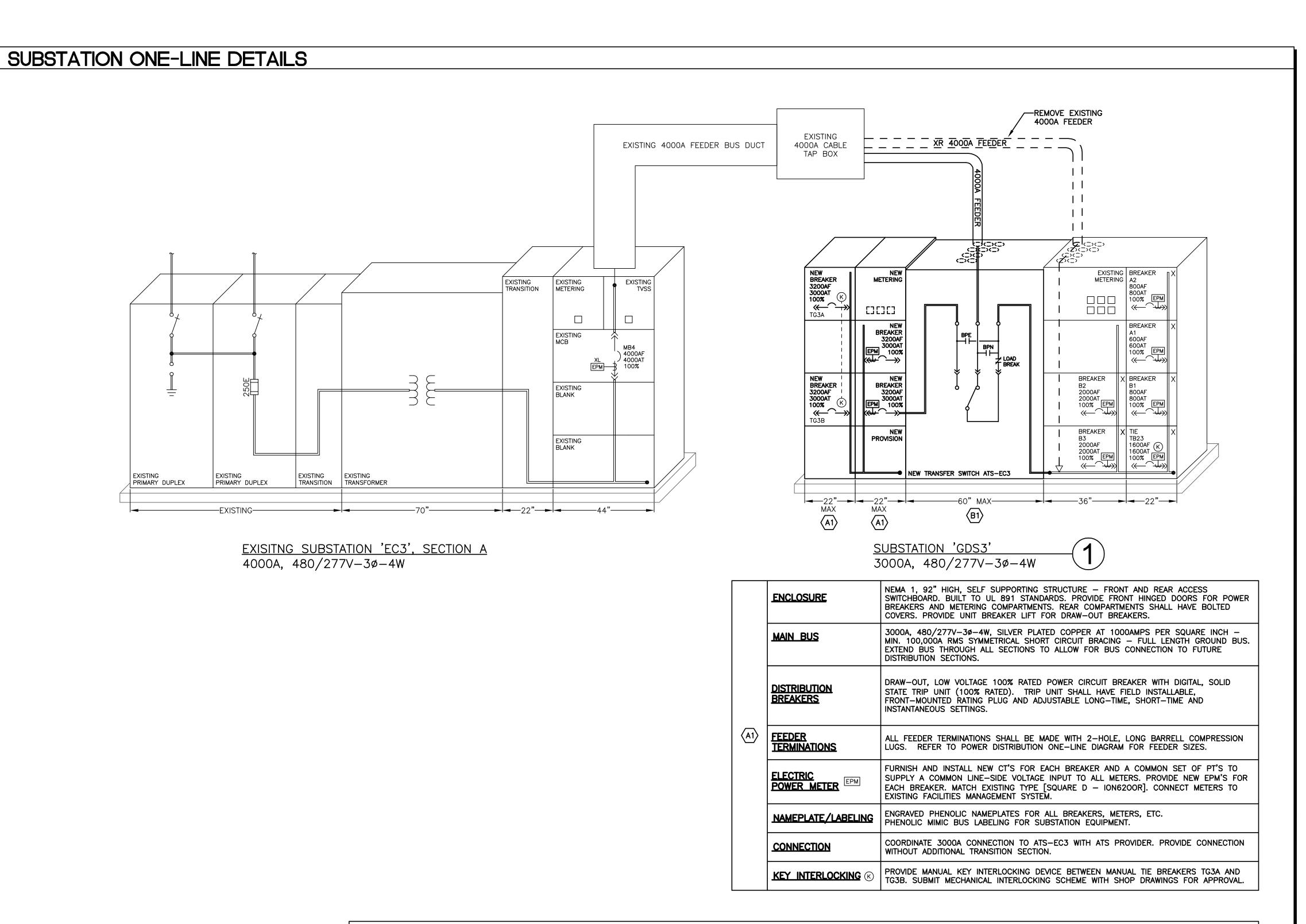


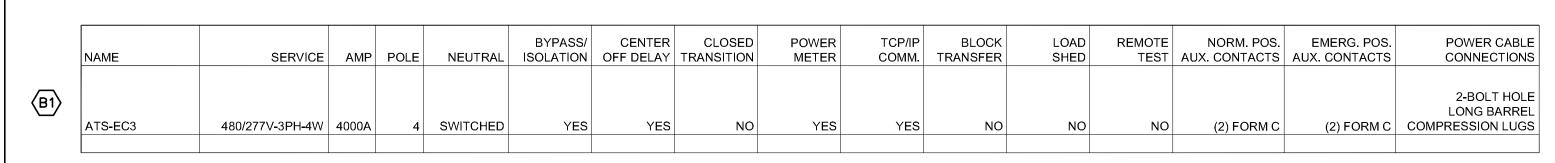






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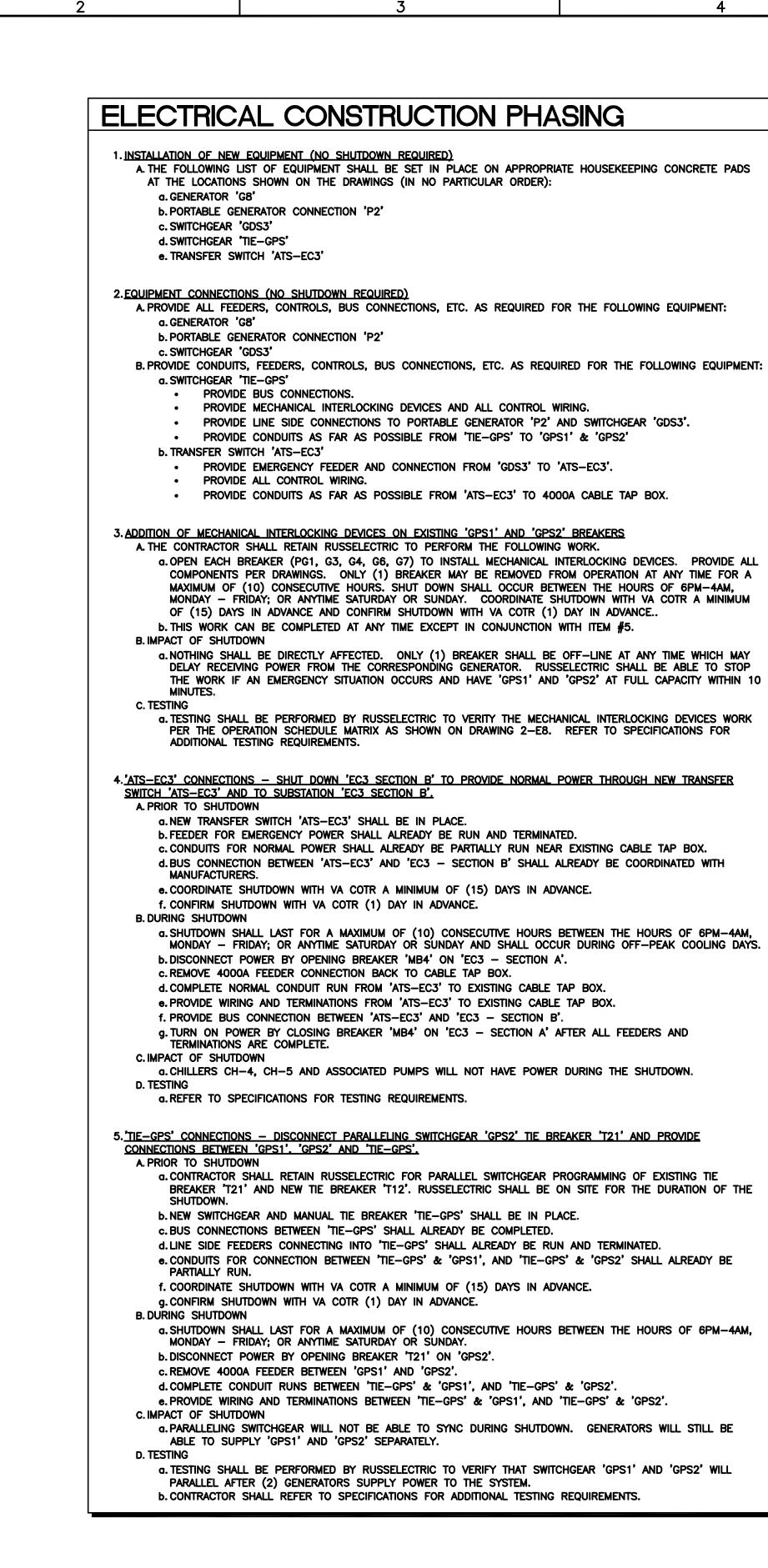


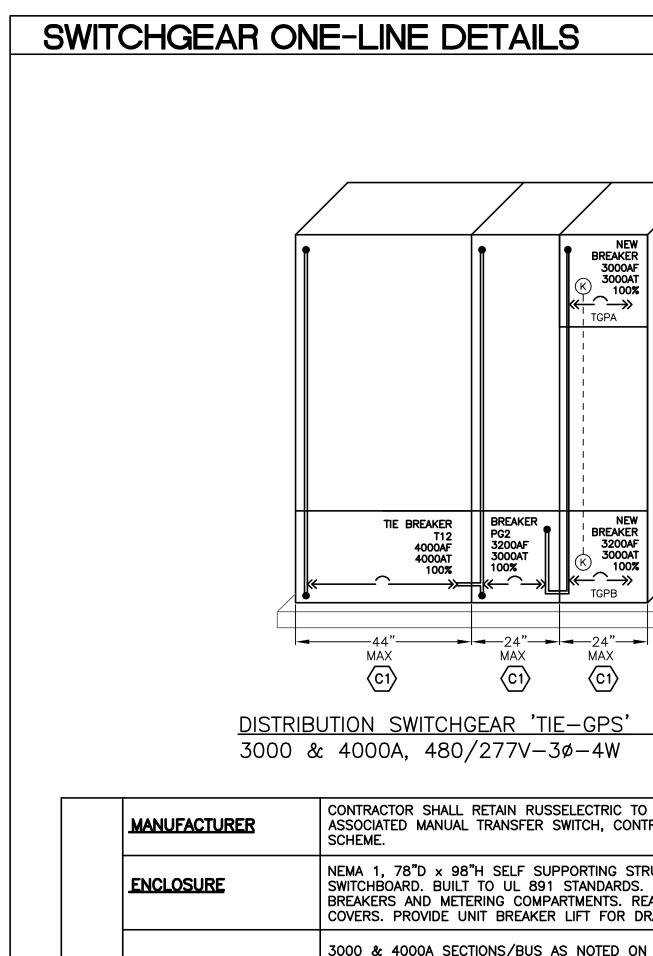


ATS SCHEDULE NOTES:

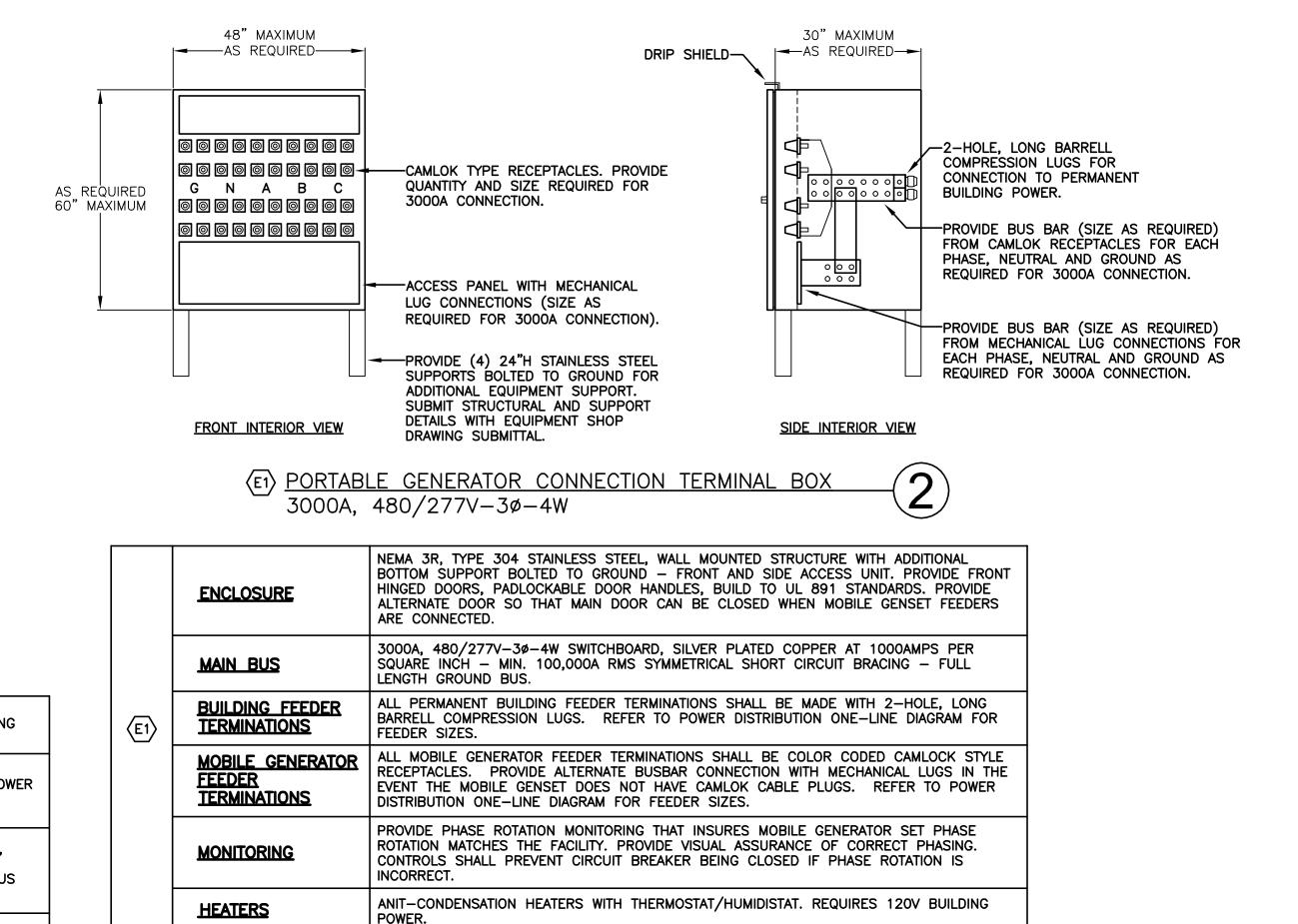
- 1. TRANSFER SWITCH SHALL BE MOUNTED IN FREESTANDING, NEMA 1 ENCLOSURE (MANUFACTURER: ASCO). COORDINATE CONNECTIONS TO GDS3 AND EC3 SECTION B WITH MANUFACTURERS.
- 2. PROVIDE 1-1/4"C-8 #14 FROM ATS-EC3 TO GENERATOR CONTROL PANEL. ATS VENDOR/MFR SHALL COORDINATE THIS WORK AND INCLUDE WIRING DIAGRAMS SHOWING WIRING TO SPECIFIC TERMINAL BLOCKS WITH SHOP DRAWINGS.
- 3. PROVIDE AUX CONTACTS AND 3/4"C-6#14 FROM ATS-EC3 TO TEMPERATURE CONTROL PANEL TO VERIFY POSITION OF TRANSFER SWITCH. CONTRACTOR SHALL COORDINATE THIS WORK WITH ASCO AND INCLUDE WIRING DIAGRAMS SHOWING WIRING TO AUX CONTACTS WITH SHOP DRAWINGS.
- 4. ELECTRONIC POWER METER SHALL LOCALLY DISPLAY AND REMOTELY COMMUNICATE THE FOLLOWING DATA;
 - A. CURRENT, PER PHASE RMS AND NEUTRAL
 B. VOLTAGE, PHASE—TO—PHASE AND PHASE—TO—NEUTRAL
 C. REAL POWER (kW), PER PHASE AND 3—PHASE TOTAL
 D. APPARENT POWER (kVA), PER PHASE AND 3—PHASE TOTAL
 E. REACTIVE POWER (kVAR), PER PHASE AND 3—PHASE TOTAL
 F. POWER FACTOR
 G. FREQUENCY
- 5. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- 6. COORDINATE BUS/FEEDER CONNECTIONS TO ADJACENT SWITCHGEAR EQUIPMENT WITH MANUFACTURER. PROVIDE CONNECTION THAT DOES NOT REQUIRE ANY ADDITIONAL TRANSITION SECTIONS. PROVIDE CONNECTION ELEVATIONS WITH SHOP DRAWINGS FOR APPROVAL.







	€1	MANUFACTURER	CONTRACTOR SHALL RETAIN RUSSELECTRIC TO PROVIDE SWITCHGEAR 'TIE-GPS', ASSOCIATED MANUAL TRANSFER SWITCH, CONTROLS AND MECHANICAL KEY INTERLOCKING SCHEME.
		ENCLOSURE	NEMA 1, 78"D x 98"H SELF SUPPORTING STRUCTURE — FRONT AND REAR ACCESS SWITCHBOARD. BUILT TO UL 891 STANDARDS. PROVIDE FRONT HINGED DOORS FOR POWER BREAKERS AND METERING COMPARTMENTS. REAR COMPARTMENTS SHALL HAVE BOLTED COVERS. PROVIDE UNIT BREAKER LIFT FOR DRAW—OUT BREAKERS.
		MAIN BUS	3000 & 4000A SECTIONS/BUS AS NOTED ON ONE-LINE DIAGRAM, 480/277V-3ø-4W, SILVER PLATED COPPER AT 1000AMPS PER SQUARE INCH — MIN. 100,000A RMS SYMMETRICAL SHORT CIRCUIT BRACING — FULL LENGTH GROUND BUS. COORDINATE BUS CONNECTIONS WITH ONE-LINE DIAGRAM AND MANUFACTURER.
		DISTRIBUTION BREAKERS	DRAW-OUT, LOW VOLTAGE 100% RATED POWER CIRCUIT BREAKER WITH DIGITAL, SOLID STATE TRIP UNIT (100% RATED). TRIP UNIT SHALL HAVE FIELD INSTALLABLE, FRONT-MOUNTED RATING PLUG AND ADJUSTABLE LONG-TIME, SHORT-TIME AND INSTANTANEOUS SETTINGS. PROVIDE GROUND FAULT ALARM.
		FEEDER TERMINATIONS	ALL FEEDER TERMINATIONS SHALL BE MADE WITH 2-HOLE, LONG BARRELL COMPRESSION LUGS. REFER TO POWER DISTRIBUTION ONE-LINE DIAGRAM FOR FEEDER SIZES.
		NAMEPLATE/LABELING	ENGRAVED PHENOLIC NAMEPLATES FOR ALL BREAKERS, METERS, ETC. PHENOLIC MIMIC BUS LABELING FOR SUBSTATION EQUIPMENT.



ENGRAVED PHENOLIC NAMEPLATES FOR ALL BREAKERS, METERS, ETC.

NAMEPLATE/LABELING | ENGRAVED PHENOLIC MIMIC BUS LABELING FOR SUBSTATION EQUIPMENT.

INSTRUCTIONAL EQUIPMENT PLACARD:

PROVIDE (8) 17"x22" ENGRAVED PLACARDS FOR SWITCHGEAR BREAKER

ENGRAVED 1/4" MICARTA PLACARD MOUNTED ON EQUIPMENT WITH

ASSUME 1000 CHARACTERS/SYMBOLS PER INSTRUCTIONAL PLACARD.

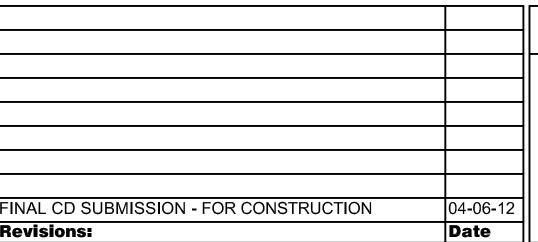
CHARACTER/SYMBOLS SHALL BE ASSUMED TO BE OF VARIOUS HEIGHTS

. VERIFY EXACT SIZE, TEXT STYLE, COLOR AND MOUNTING LOCATION OF INSTRUCTIONAL PLACARDS WITH VAMC COTR PRIOR TO ORDERING.

INSTRUCTION PLACARD WORDING SHALL BE PROVIDED BY THE VAMC FINAL ENGRAVED PLACARDS WITHIN (4) WEEKS OF RECEIVING FINAL

INSTRUCTIONS. CONTRACTOR SHALL PROVIDE ITEMS AS FOLLOWS:

THROUGH THE COMMISSIONING PROCESS. CONTRACTOR SHALL PROVIDE WORDING.



one eighth inch = one foot

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rawing Title	Project Title
POWER DISTRIBUTION	CHILLER PLANT
ELECTRICAL EQUIPMENT	GENERATOR &
	DISTRIBUTION UPGRADE
pproved: Project Director	Location VAMC - WADE PARK

Office of **Facilities** Management

'roject Number

541-11-108

Building Number

Drawing Number

Drawn

Checked

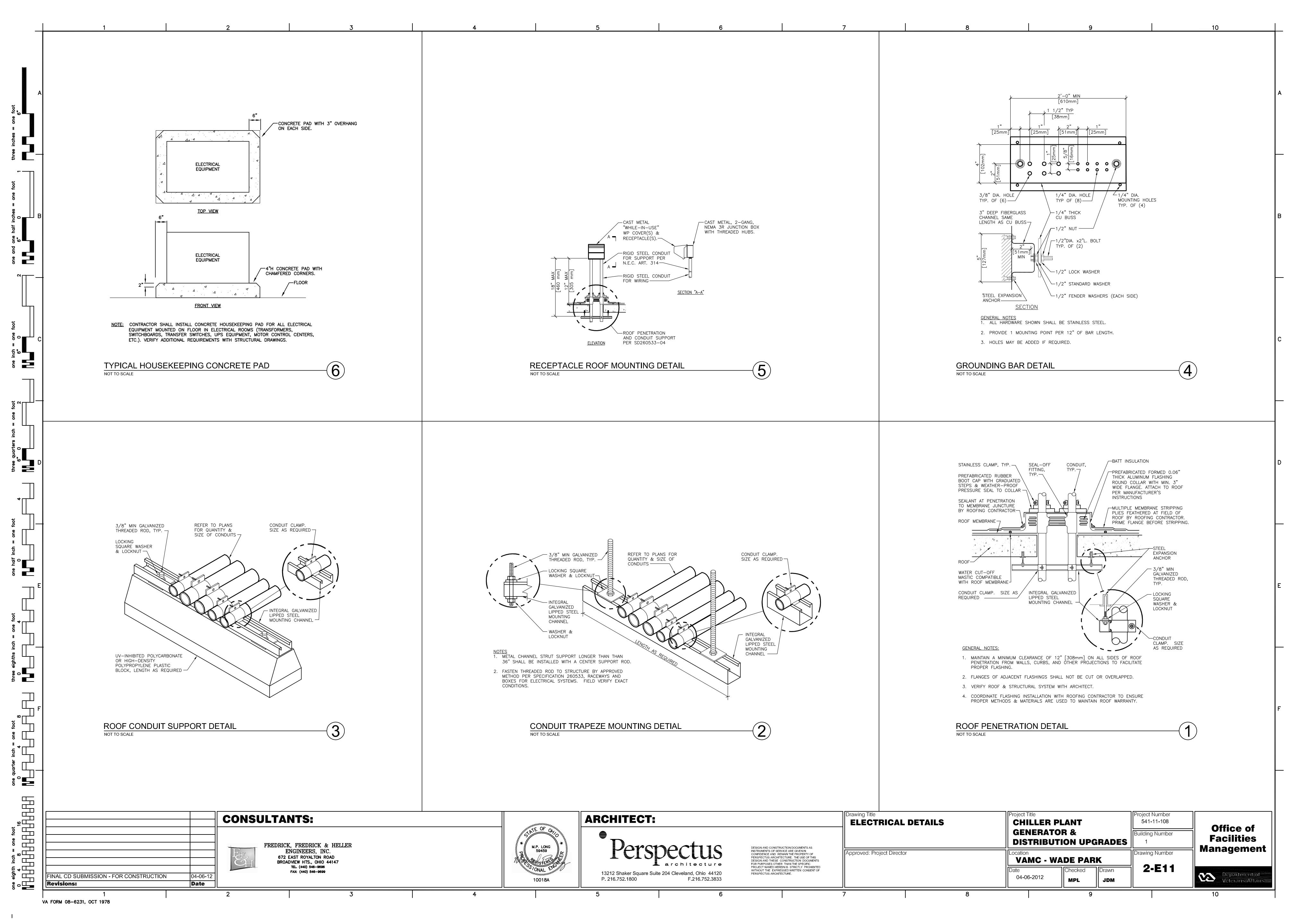
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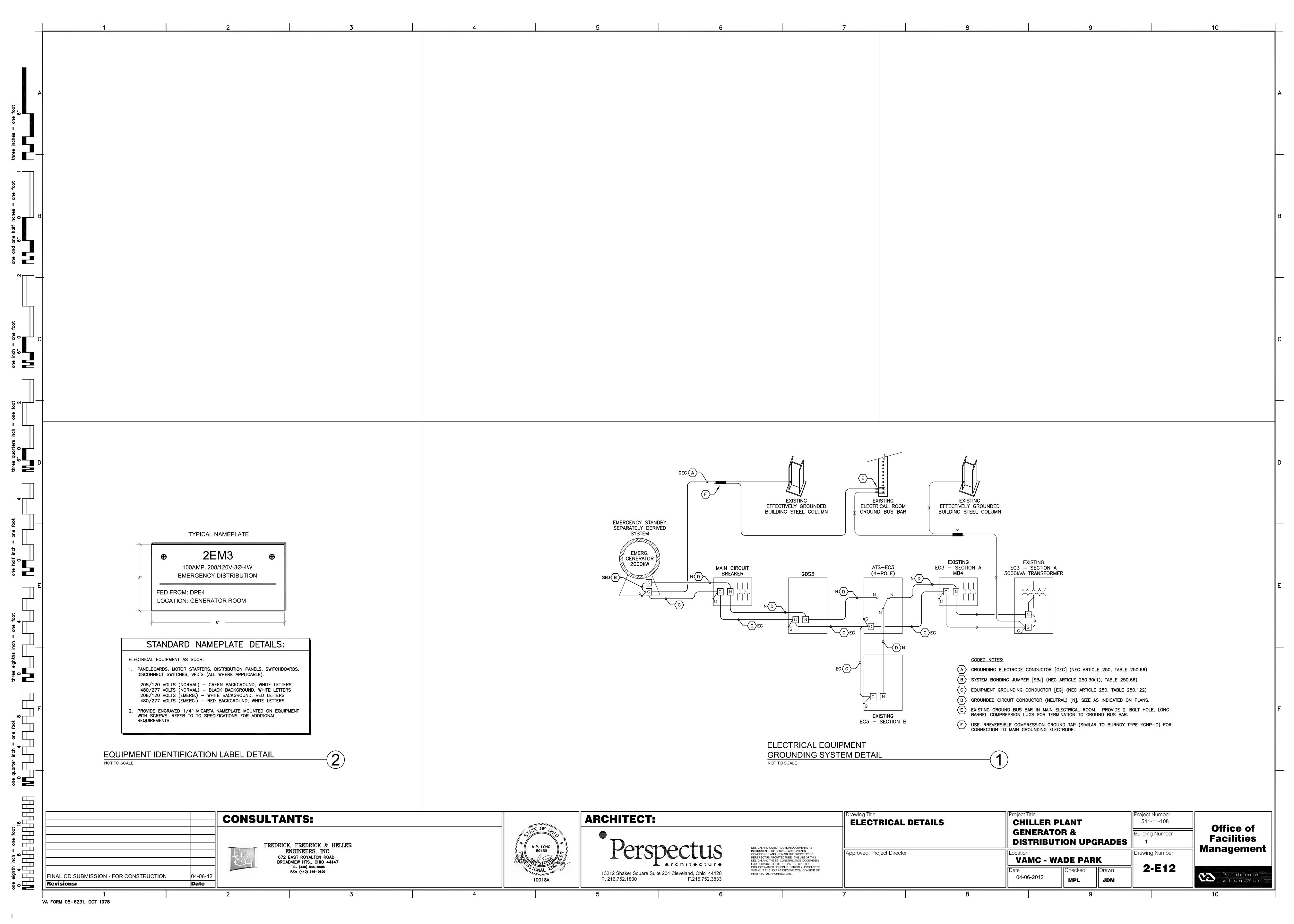
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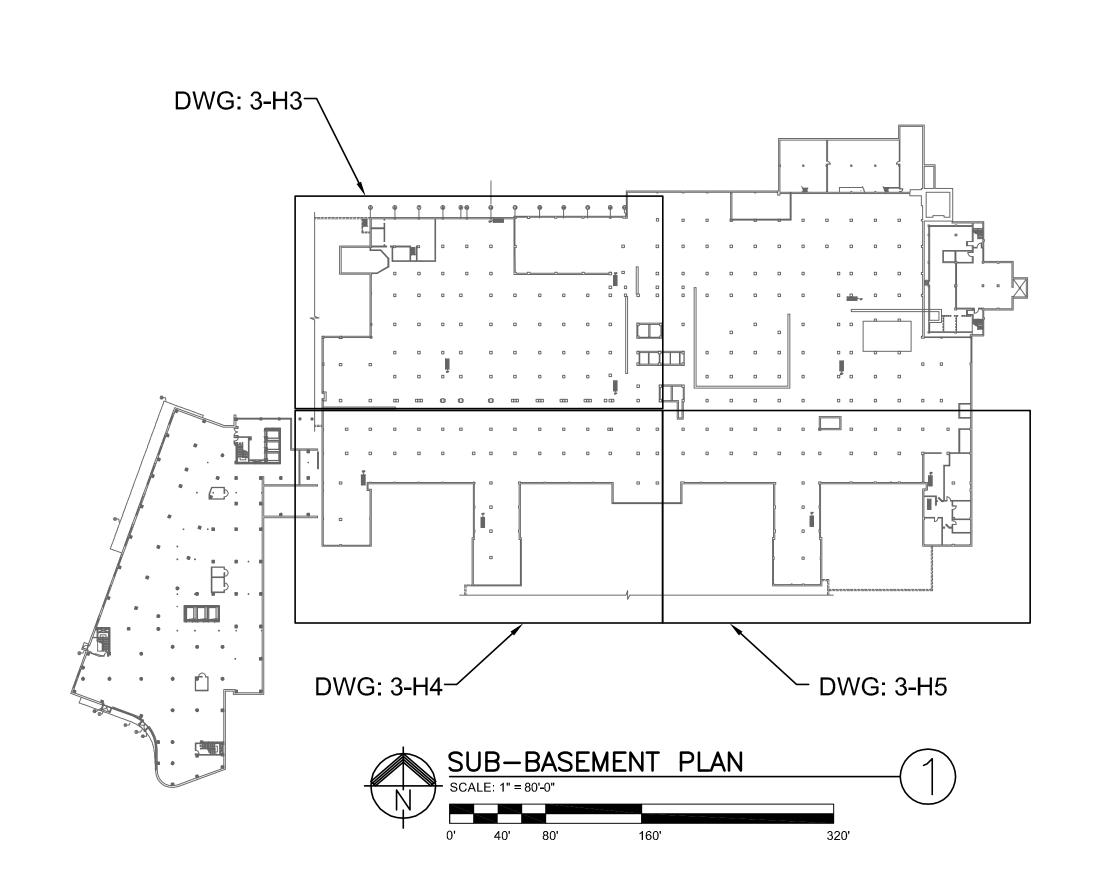
CHILLED WATER SYSTEM SHUTDOWN NOTES

- A. TIE-INS TO THE MAIN CHILLED WATER LINES IN THE SUBBASEMENT SHALL BE LIMITED TO ONE SCHEDULED SHUTDOWN. THE CONTRACTOR SHALL COMPLETE THE SHUTDOWN, DRAIN, TIE-IN, INSULATE, FILL, AND START-UP DURING A CHILLED WATER PLANT SHUTDOWN FROM JANUARY 1ST THRU JANUARY 15TH.
- B. CONTRACTOR SHALL SUBMIT AN OVERALL SHUTDOWN SCHEDULE TO THE COTR FOR APPROVAL. SPECIFIC EQUIPMENT SHUTDOWN REQUEST MUST BE SUBMITTED TO THE VA COTR 14 DAYS PRIOR TO THE SHUTDOWN. THE REQUEST SHALL INCLUDE: SHUTDOWN DATE AND TIME, EQUIPMENT AND ROOMS AFFECTED, DATE AND TIME EQUIPMENT WILL BE BACK IN SERVICE, TEMPORARY COOLING EQUIPMENT REQUIRED.
- C. BALANCER SHALL RECORD CHILLED WATER FLOW AND DISCHARGE AIR TEMPERATURE OF EACH AHU PRIOR TO THE SCHEDULED SHUTDOWNS.
- D. ALL MINOR CHILLED WATER BRANCH SHUTDOWNS AND TIE—INS WILL OCCUR OVER THE WEEKEND, SATURDAY AND SUNDAY. THE SCOPE FOR A WEEKEND TIE—IN WILL INCLUDE; NOTIFY FACILITIES AND HAVE THEM SHUT OFF THE EQUIPMENT, VALVE OFF AND DRAIN CHILLED WATER BRANCHES FEEDING THE EQUIPMENT, CUT IN THE TEES AND VALVES, FLUSH BRANCH PIPING, CLEAN STRAINER, FILL BRANCHES, OPEN NEW VALVES TO CHILLED WATER MAINS, ADJUST BALANCE VALVES TO OBTAIN REQUIRED FLOWS, START—UP EQUIPMENT, VERIFY
- E. THE CONTRACTOR SHALL PROVIDE TEMPORARY COOLING EQUIPMENT FOR EACH SPACE THAT MUST REMAIN IN USE. THIS INCLUDES PROVIDING HOSES FOR WATER AND DRAIN CONNECTIONS, OR TEMPORARY DUCTWORK TO REJECT HOT AIR.

BALANCER NOTES

THE FOLLOWING AIR HANDLING UNITS WILL BE DIRECTLY AFFECTED DUE TO CHANGES IN THE CHILLED WATER SYSTEM, THUS ALL BALANCER NOTES SHALL APPLY TO THESE UNITS.
 SF-1, SF-2, SF-3, SF-4, AC-28, AC-31, AC-32, AC-17, AC-18, AC-34

- 2. BALANCER SHALL RECORD CHILLED WATER FLOW AND DISCHARGE AIR TEMPERATURE OF EACH AHU PRIOR TO THE SCHEDULED SHUTDOWNS.
- AFTER CHILLED WATER PIPING MODIFICATIONS;
 A. RESET BALANCE VALVES TO DESIGN FLOW RATES
- A. RESET BALANCE VALVES TO DESIGN FLOW RAT B. RECORD COIL PRESSURE DROP AND FLOW
- 4. MEASURE DISCHARGE AIR TEMPERATURE
- 5. MEASURE DIFFERENTIAL PRESSURE AT CHW DIFFERENTIAL PRESSURE SENSORS
 A. ACC BASEMENT MECHANICAL ROOM
 B. 7TH FLOOR PENTHOUSE
- 6. ADJUST 7TH FLOOR PENTHOUSE DIFFERENTIAL PRESSURE SET POINT TO MEET FLOW FOR AC-17 AND AC-18
- 7. ADJUST ACC DIFFERENTIAL PRESSURE SET POINT TO MEET FLOW IN AC-53 AND AC-55

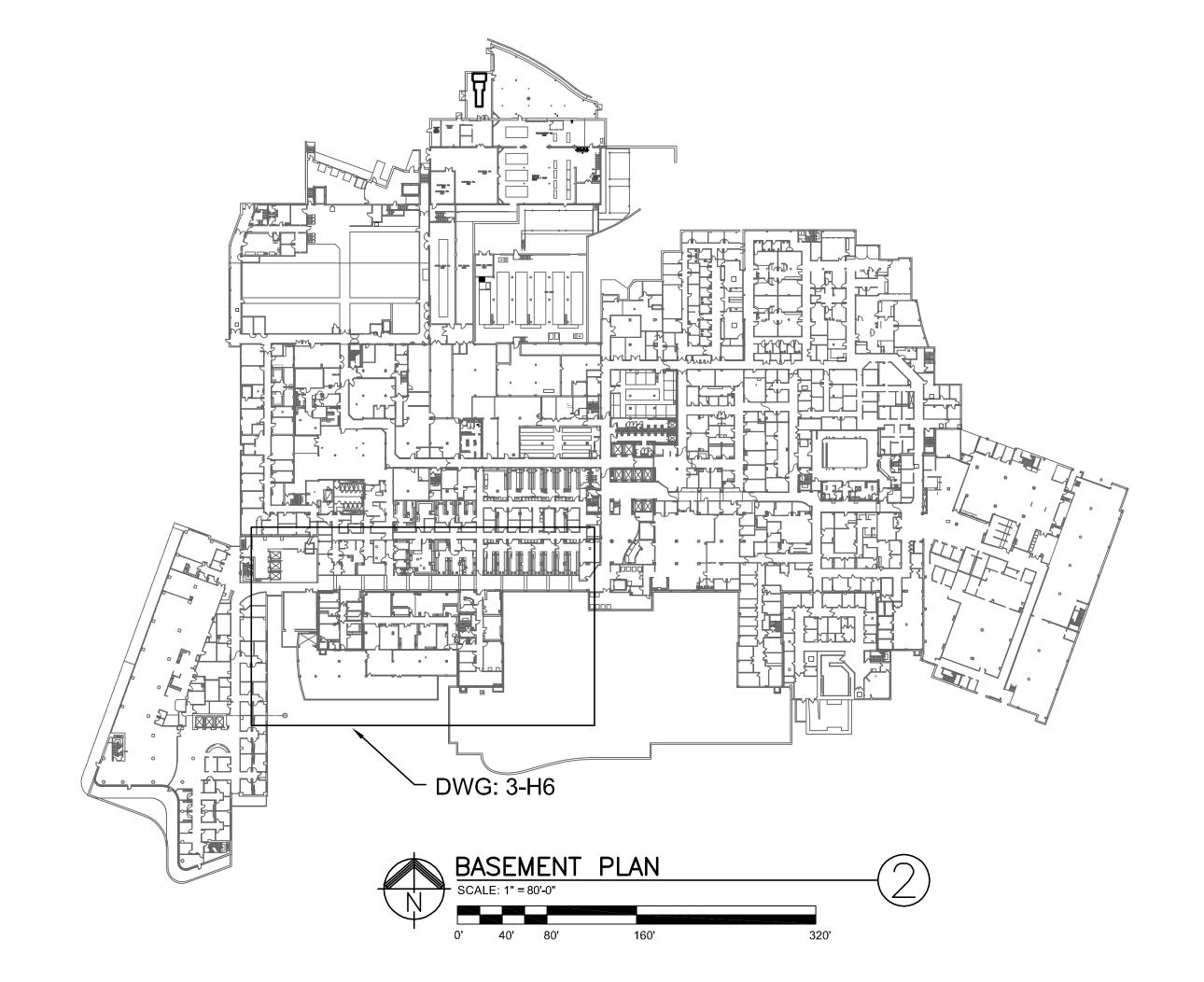


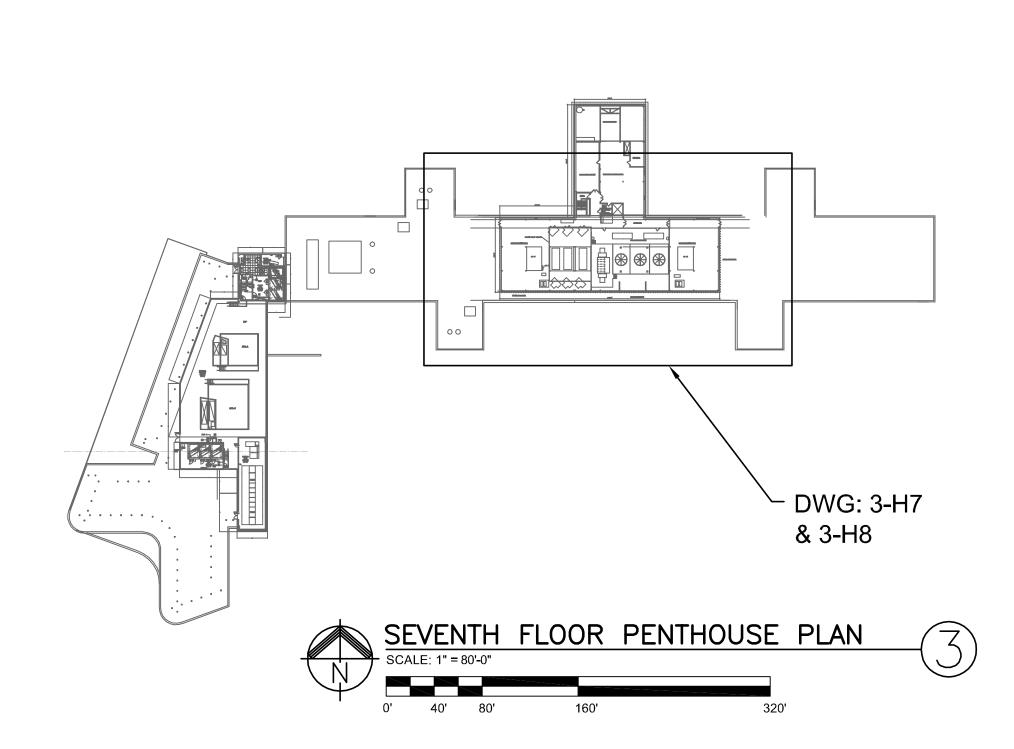
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